

STELLAR TEAM

NOBLE MISSION

2021



Ms. TINA BARNHILL

SBIR/STTR

BUSINESS OPERATIONS MANAGER

SBIR/STTR INNOVATION SUMMIT

Embracing Innovation, Science, and Technology to Outpace the Threat



MDA TECHNOLOGY MATURATION (DVR)

- Pursue a broad range of high-risk technologies
 - Capitalize on the innovation and creativity of the Nation's small businesses and universities
 - Develop and transform cutting edge technologies into actual applications for insertion into the MDS (Missile Defense System)
- Technology Maturations' Technical Objectives
 - Fund relevant, advanced Research and Development at domestic universities and small businesses
 - Exploit breakthroughs in science to offer robust technical improvements to MDS
 - Build portfolio of revolutionary technology to support and enhance MDS
 - Develop holistic partnerships
 - Educate future scientists and engineers





SBIR/STTR RESEARCH AREAS

Research Area	Research Interests
Sea-Based Weapon Systems	Innovative Ejector Launch System, Standard Missile 3 (SM-3) Materials Design Improvements
C2BMC	Artificial Intelligence applied to Battle Management
Radar	Kinematic Invariant Space Maximum Entropy Tracker
Director for Technology Protection	Bare Metal Hypervisor and Anti-Tamper Protections
Industrial Manufacturing	Advanced Supercapacitors Based on Novel Low-cost Biocarbon Materials
Lethality	Modeling and testing of materials for Lethality Assessments
Survivability	RadHard Parts, Testing of Nuclear Survivability
Modeling & Simulation	Aerodynamic Controls for Hypersonic Vehicles, hypersonic vehicle modeling, upper stage motors



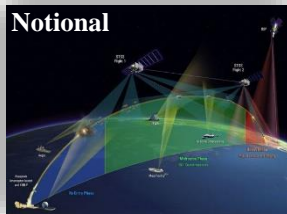
SBIR/STTR RESEARCH AREAS

Research Area	Research Interests
Ground Based Midcourse Defense	IR signature modeling, Lightweight Multifunctional Components for Next-Gen Kill Vehicles
Targets & Countermeasures	Sensors and In-flight Communications
THAAD	LADAR, Antennas, and Hypersonic Control Surfaces, Thermal Batteries
Test Instrumentation	Optics testing
Technology Maturation	Hypersonics, propulsion, advanced materials,
Sensors & Directed Energy	Fiber laser modeling and performance
Quality, Safety & Mission Assurance	Transparent SiC windows, Igniter Systems for Solid Rocket Motors



SBIR/STTR SOLICITATION PROCESS

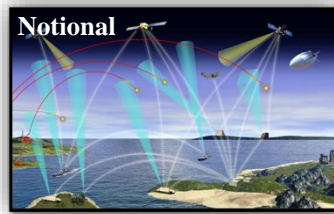
- **SBIR / STTR program is a four step process**
 - Phase I: Feasibility and concept development
 - Phase II: Technology and prototype development
 - Technology may receive one sequential Phase II
 - Phase II Enhancement: Prototype testing and technology demonstrations and validation
 - Phase III: Commercialization and Transition



(SBIR/STTR Funded)

Phase I

Feasibility
Study



(SBIR/STTR Funded)

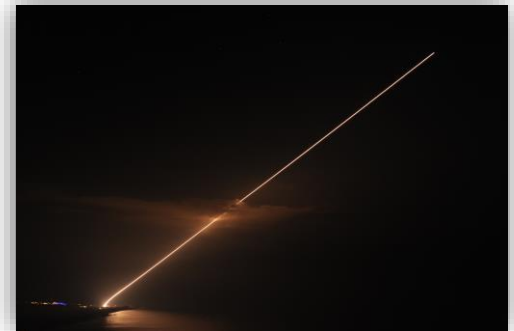
Phase II

Technology Development
& Prototype
Demonstration

(SBIR/STTR Funded)

Phase II Enhancement

Prototype Testing &
Evolution Technology
Demo & Validation



(Program Funded)

Phase III

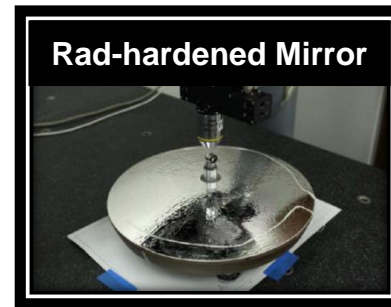
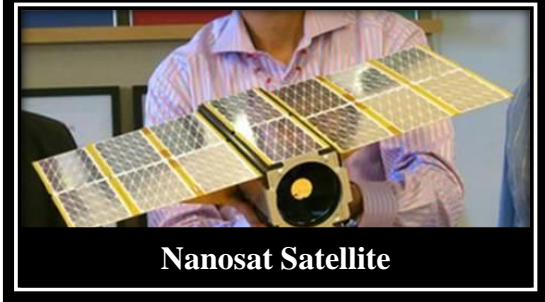
Commercialization
Transition

Announcement published in <https://www.dodsbirsttr.mil>



RECENT SBIR / RIF / BAA SPONSORED RESEARCH ACCOMPLISHMENTS

- Inaugurated a nanosat testbed program to demonstrate notional Kill Vehicle communication architecture
- Executed structural test series to validate SBIR developed lightweight composites
- Near Net Shape Manufacturing Non-Eroding, Thin Walled, Tungsten
- Completed radiation testing on hardened mirrors
- Developed high-speed test instrumentation





TECHNOLOGY INVESTMENT AWARDS

FY19 Awards

SBIR Phase I	53 Awards	\$5,524,705
SBIR Phase II	31 Awards	\$30,830,503
SBIR Phase III	4 Awards	\$17,340,888
Out of Cycle	48 Awards	\$52,310,500

FY20 Awards

SBIR Phase I	56 Awards	\$5,805,349
SBIR Phase II	20 Awards	\$20,251,787
SBIR Phase III	18 Awards	\$21,353,251
Out of Cycle	56 Awards	\$65,637,934



CONTACT INFORMATION

www.mda.mil

- Missile Defense News, Images, Videos, Fact Sheets
- BMDS Overview, BMD Basics
- MDA Business Opportunities
(https://www.mda.mil/business/advanced_research.html)
- SBIR/STTR Innovation Summit Charts
(https://www.mda.mil/business/SBIR_STTR_programs.html)
- DoD SBIR/STTR website: <https://sbir.defensebusiness.org>
- SBA SBIR/STTR website: <https://www.sbir.gov>

To Contact MDA

- SBIR / STTR 256-955-2020 sbirsttrindustry@mda.mil
- Commercialization 256-450-5343 SBIR-PhaseIII@mda.mil

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